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Statement of G. S. Peter Bergen to the Blue Ribbon Commission on America's Nuclear Future

This Statement is submitted to The Blue Ribbon Commission on America's Nuclear Future (Commission) in response to a public notice dated March 9, 2010 (75 FR 10,971). The Commission is directed by the President to review and report on the history and current status of spent nuclear fuel (SNF) and defense high-level waste (HLW) disposal in the United States, including projections of disposal needs in the future. My statement is based on my involvement with energy and environmental law and policy events germane to these matters over the past fifty years.

The Commission's task merits the highest priority. The United States has yet to successfully implement a long-term nuclear waste disposal policy, even though the need has been obvious beginning with the Manhattan Project. Since Three Mile Island and Chernobyl, both fear of nuclear power, and lack of consensus on long-term nuclear waste management policy have stymied construction of new nuclear-powered electric generating plants in the United States. And yet, nuclear-electric generating plants are essential to America's energy future. Today, climate-change concerns, attributed in large measure to carbon emissions from fossil-fuel combustion, make civilian nuclear-electric generation more important than ever.

The Commission needs to recommend a practical plan for managing both used nuclear fuel from civilian electric power facilities, and nuclear materials derived from the manufacture of nuclear weapons. At the present time, the absence of an SNF disposal policy amounts to a *de-facto* moratorium on new nuclear generating plant construction. However, without nuclear-electric power

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generation to support reliability and firm capacity on our power grids, our electric systems will be less reliable and suffer from high costs. As a result, other nations, that are building new nuclear plants to assure their own lowest-cost firm power needs, are likely to supplant our present world economic leadership.

Today, civilian nuclear power is not accepted by much of our nation's public, and is not widely supported by State or local political leaders. Many people mistakenly believe that light-water nuclear power plants can explode – like a Hiroshima bomb. Many also believe that vast amounts of SNF from light-water reactors can not be safely disposed of or managed, and is likely to cause irreparable environmental harm. Most people think that civilian nuclear power is no longer an option, and that future electric energy needs should be supplied by alternative sources, such as solar, wind, and fuel cells, or from fossil fuels that sequester carbon emissions. Asserting that "we put a man on the moon, so we can meet our electricity needs with solar and wind," many people dismiss nuclear as too costly and unsafe. But they fully expect their lights to stay on, they want clean air and water, and they support conserving land, fish and wildlife.

The reality is that wind, solar and other alternative means of producing electricity can provide only a portion of our electricity needs. Nuclear is essential to fill an important part of our future needs, especially if reduced carbon emissions are to become a reality. Nuclear fission can produce the exceedingly large amounts of electric energy and reliable capacity that we need now and in the future, with minimal and mitigatable adverse environmental impacts, especially when compared to fossil and wind and solar alternatives. The land-use, environmental, and cost requirements of alternative generating facilities to meet all of our electricity needs would be unacceptable. This is not to downplay the importance of energy efficiency, conservation, and innovations (such as time-of-day metering). Even so, nuclear must be an important part of the overall generation mix.

Most people don't realize that about twenty percent of our nation's electricity is generated at the present time by existing nuclear plants, plants that have been running safely for many years. That percentage can readily be increased to replace existing coal and other fossil-fueled generators – and to replace existing nuclear generators, now approaching forty years of age. This means that new SNF will be created and require management into the future, which is why this Commission's task is so vital.

This Commission should fully disclose of the quantities of existing SNF and HLW stockpiles, and should compare the quantities of SNF that currently exist to existing HLW quantities, and to quantities that are projected to be created. Thousands of weapons containing highly enriched nuclear materials were made in the Cold War weapons programs, leaving a large legacy of HLW. HLW may even continue to be made. The Commission should explain the extent to which existing HLW stockpiles require perpetual nuclear waste management and disposal, regardless of whether civilian nuclear electricity generation is a part of America's future. The Commission should disclose the extent to which existing and projected new quantities of SNF may well be readily manageable and relatively small, compared to the existing quantities of HLW requiring long-term management. It may well be that existing and expanded civilian nuclear-electric generators will not significantly add to existing SNF and HLW stockpiles already amassed, and thereby would not add significantly to the already unavoidable burden of managing existing quantities of HLW and SNF. Moreover, existing weapons-grade nuclear materials, materials that have already been enriched using huge amounts of energy, may well be able to be reprocessed for use as fuel in nuclear-electric power plants, which will "burn down" existing HLW that would otherwise require perpetual storage.

The Commission's report is needed to inform the public of the facts and realities of future nuclear power development and alternatives. Public understanding of these issues is critical.

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We have no choice but to use our nuclear awareness to mankind's great benefit. The notion that our civilian nuclear resources and knowledge should remain untapped is sheer folly. I submit that construction of new and upgraded nuclear power plants deserves high priority.

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